

# All Digital Switch-Mode DC/DC Converters with BIST Functionality for Harsh Space Environments, Phase I

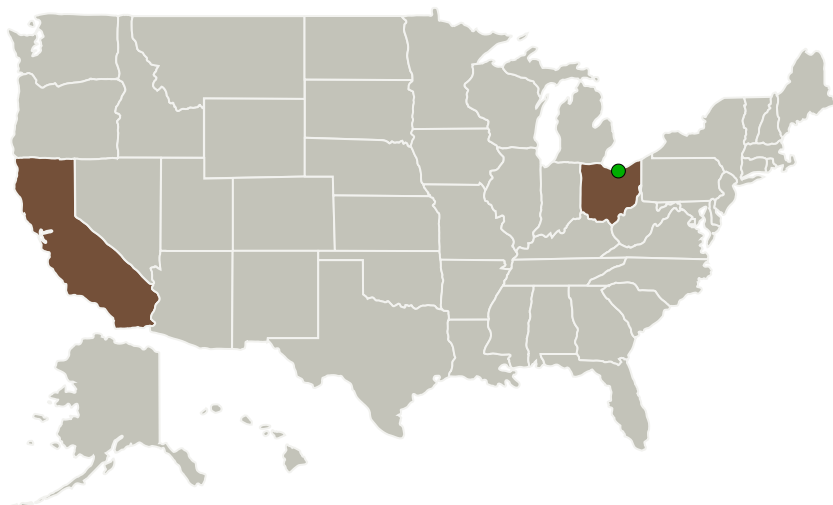
Completed Technology Project (2011 - 2011)




## Project Introduction

The Space Micro - Arizona State University (ASU) team will develop an all-digitally controlled, wide temperature range point-of-load switch-mode DC-DC regulator core with built-in self-test (BIST) functionality which meets space radiation requirements. In Phase I we will produce a design that can be fabricated into silicon in Phase II and demonstrate aspects of the design in the laboratory with some preexisting silicon circuits and discrete components.

## Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Space Micro, Inc.	Lead Organization	Industry	San Diego, California
 Glenn Research Center(GRC)	Supporting Organization	NASA Center	Cleveland, Ohio

### Primary U.S. Work Locations

California	Ohio
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## Project Transitions



**February 2011:** Project Start



**September 2011:** Closed out

**Closeout Summary:** All Digital Switch-Mode DC/DC Converters with BIST Functionality for Harsh Space Environments, Phase I Project Image

### Closeout Documentation:

- Final Summary Chart Image(<https://techport.nasa.gov/file/137989>)

## Organizational Responsibility

### Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

### Lead Organization:

Space Micro, Inc.

### Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

## Project Management

### Program Director:

Jason L Kessler

### Program Manager:

Carlos Torrez

### Principal Investigator:

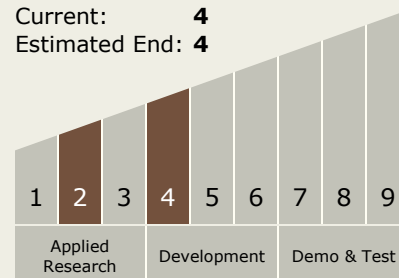
Dave J Strobel

## Technology Maturity (TRL)

Start: 2

Current: 4

Estimated End: 4



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## Technology Areas

### Primary:

- TX02 Flight Computing and Avionics
  - └ TX02.1 Avionics Component Technologies
    - └ TX02.1.7 Point-of-Load Power Converters

## Target Destinations

The Moon, Mars, Outside the Solar System, The Sun, Earth, Others Inside the Solar System